

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

IPCOM, GMBH & CO. KG

Plaintiff,

v.

VERIZON COMMUNICATIONS INC.,
CELLCO PARTNERSHIP D/B/A VERIZON
WIRELESS, VERIZON BUSINESS NETWORK
SERVICES, INC., VERIZON SERVICES
CORP., VERIZON ENTERPRISE SOLUTIONS
LLC, VERIZON BUSINESS GLOBAL LLC,
VERIZON BUSINESS SERVICES LLC,
VERIZON CORPORATE SERVICES GROUP
INC., VERIZON DATA SERVICES LLC, and
VERIZON ONLINE LLC,

Defendants.

Civil Case No.: 2:20-cv-323

JURY TRIAL DEMANDED

COMPLAINT

Plaintiff IPCom GmbH & Co. KG hereby files this Complaint against Verizon Communications Inc., Cellco Partnership d/b/a/ Verizon Wireless, Verizon Business Networks Services, Inc., Verizon Services, Inc., Verizon Enterprise Solutions LLC, Verizon Business Global LLC, Verizon Business Services LLC, Verizon Corporate Services Group Inc., Verizon Data Services LLC, and Verizon Online (collectively, “Verizon” or “Defendants”), and alleges as follows:

THE PARTIES

1. IPCom GmbH & Co. KG (“IPCom”) is a limited partnership organized under the laws of Germany with its principal place of business at Zugspitzstraße 15, 82049 Pullach, Germany.

2. Verizon Communications Inc. (“Verizon Communications”) is a Delaware corporation with a principal place of business at 1095 Avenue of the Americas, New York, New York 10036.

3. Cellco Partnership d/b/a/ Verizon Wireless (“Cellco Partnership”) is a Delaware partnership with its principal place of business at One Verizon Way, Basking Ridge, New Jersey 07920.

4. Verizon Business Network Services Inc. (“Verizon Business”), is a Delaware corporation with a regular and established place of business in this District at 222 Rotary, San Antonio, TX 78202.

5. Verizon Services Corp. (“Verizon Services”) is a Delaware corporation with a principal place of business at 1717 Arch Street, 21st Floor, Philadelphia, PA 19103.

6. Verizon Enterprise Solutions, LLC (“Verizon Enterprise”) is a limited liability company organized and existing under the laws of the State of Delaware, with a principal place of business at One Verizon Way Basking Ridge, New Jersey 07920.

7. Verizon Business Global, LLC (“Verizon Business Global”) is a limited liability company organized and existing under the laws of the State of Delaware, with a principal place of business at One Verizon Way Basking Ridge, New Jersey 07920.

8. Verizon Business Network Services LLC (“Verizon Business Network”) is a limited liability company organized and existing under the laws of the State of Delaware, with a principal place of business at 22001 Loudoun County Parkway, Ashburn, Virginia 20147.

9. Verizon Corporate Services Group Inc. (“Verizon Corporate Services”) is a corporation organized and existing under the laws of the State of New York, with a principal place of business at One Verizon Way, Basking Ridge, New Jersey 07920.

10. Verizon Data Services LLC (“Verizon Data Services”) is a limited liability company organized and existing under the laws of the State of Delaware, with a principal place of business at One East Telecom Parkway, B3E, Temple Terrace, Florida 33637.

11. Verizon Online LLC (“Verizon Online”) is a limited liability company organized and existing under the laws of the State of Delaware, with a principal place of business at 22001 Loudoun County Parkway, Ashburn, Virginia 20147.

NATURE OF ACTION

12. This is a civil action for infringement of U.S. Patent Nos. 7,333,822 (the “822 Patent”), 10,382,909 (the “909 Patent”); 6,813,261 (the “261 Patent”); 7,006,463 (the “463 Patent”); and 6,983,147 (the “147 Patent”) (collectively the “Patents-in-Suit”), arising under the patent laws of the United States, 35 U.S.C. § 1 *et seq.*

JURISDICTION AND VENUE

13. This Court has subject matter jurisdiction over this action pursuant to 28 U.S.C. §§ 1331 and 1338(a) because it arises under the patent laws of the United States.

14. This Court has personal jurisdiction over Defendants, which have committed acts of infringement in Texas and in this judicial district in violation of 35 U.S.C. § 271. For instance, Defendants have performed infringing methods, and made and used infringing systems that provide wireless telecommunications services. The Defendants have derived and continue to derive substantial revenue from the sale and use of infringing products and services in this district. In addition, Cellco Partnership d/b/a/ Verizon Wireless, Verizon Services Corp.,

Verizon Enterprise Solutions, LLC, Verizon Business Global, LLC, Verizon Business Network Services LLC, Verizon Corporate Services Group Inc., Verizon Data Services LLC, and Verizon Online LLC are registered to do business in Texas, and the Defendants own and/or maintain numerous stores and office locations within Texas. In view of the foregoing, this Court possesses both general and specific jurisdiction over the Defendants.

15. Verizon maintains a significant physical presence in this judicial district. For example, there are numerous Verizon retail stores within this judicial district, including in Allen, Beaumont, Denton, Euless, Frisco, Lufkin, McKinney, Nacogdoches, Plano, Sulphur Springs, Texarkana, and Tyler, Texas. These stores are branded with Verizon signage and trademarks for the benefit of the shopping public. Verizon uses these stores to sell telecommunications services that infringe the Patents-in-Suit. These stores are physical places within the district, are regular and established places of business, and are Verizon's places.

16. For at least these reasons, venue is proper in this judicial district. Verizon resides in this judicial district within the meaning of 28 U.S.C. § 1400(b). Verizon has committed infringement acts within this district and has regular and established places of business here.

THE PATENTS-IN-SUIT

U.S. Patent No. 7,333,822

17. On February 19, 2008, the United States Patent and Trademark Office ("USPTO" or "PTO") issued U.S. Patent No. 7,333,822, entitled "Method for Transmitting Messages in a Telecommunication Network." A true and correct copy of U.S. Patent No. 7,333,822 is attached hereto as Exhibit A and incorporated herein by this reference.

18. On July 16, 2008, a third party requester, HTC Corp. filed a request for *Inter Partes* Reexamination of U.S. Patent No. 7,333,822, and the PTO instituted reexamination

pursuant to *Inter Partes* Reexamination Control No. 95/001,211. During this reexamination, the patent owner amended some of the claims, canceled other claims, and added new claims. The PTO Examiner subsequently determined that claims 1, 17, 22 and 27-48 are patentable over all of the prior art cited during the original examination and reexamination. The third-party requester then filed an appeal to the Patent Trial and Appeal Board (“PTAB”). On May 30, 2013, the PTAB issued a Decision on Appeal affirming the Examiner’s determination that these claims are patentable. On September 13, 2013, the PTO issued *Inter Partes* Reexamination Certificate Number 7,333,822 C1, which is now part of the ’822 patent.

19. IPCOM is the assignee and owner of all right, title, and interest in and to the ’822 Patent, including the right to assert all causes of action arising under said patent and the right to any and all remedies for infringement, including past damages.

20. The invention of the ’822 Patent pertains to methods for transmitting messages in a mobile telecommunications network that can utilize two kinds of message services, such as: a short message service (“SMS”) and a multimedia messaging service (“MMS”). *See* ’822 Patent, 4:23-29. Such networks may comprise telecommunications equipment including Multimedia Messaging Service Centers (“MMSCs”), Short Message Service Centers (“SMSCs”), wireless base stations, and mobile phones. *Id.*, 2:27-30, 2:66-3:31. The invention of the ’822 Patent is designed, *inter alia*, to solve certain technical problems affecting message transmission. *Id.* For example, in order to transmit messages, telecommunications equipment needs to set up a “connection” (or “session”). *Id.*, 4:25-29. However, setting up these connections requires certain “overhead” defined by the use of network resources, including “bandwidth” and “signaling” resources. *Id.*, 4:25-29, 4:64-5:6. Among other things, the invention of the ’822

Patent reduces the amount of overhead needed to transmit messages within the network. *Id.* This improves efficiency and capacity.

21. The '822 Patent claims are directed to patent-eligible, non-abstract ideas in that they provide technical solutions to at least the technical problems described above. The claims relate to the sending of a dedicated MMS message using a short message of the SMS service, wherein the short message may include: a header portion, a data portion having an identification of a type of the dedicated MMS message, and also an identifier for indicating a presence of the dedicated MMS message in the data portion of the short message. *Id.*, 5:50-8:34. In one embodiment, the short message carries a dedicated MMS notification message, which may indicate the presence of another type of MMS message on an MMS server in the telecommunications network. *Id.*, 6:55-7:60. By using the short message to send the dedicated MMS notification message, the telecommunications network is able to dispense with the “overhead” associated with “setting up a connection/session.” *Id.*, 4:25-29, 4:67-5:6. The '822 Patent further explains that by employing the claimed methods, no “additional signaling for transmitting notifications” is required, and therefore network bandwidth and signaling resources are conserved. *Id.*, 4:67-5:6. Thus, the claimed inventions are directed to patent-eligible, non-abstract ideas because they improve the overall functioning of a telecommunications system. Further, the methods claimed in the '822 Patent cannot be performed as mental steps by a human, nor do they represent the application of a generic computer to any well-known method of organizing human behavior.

U.S. Patent No. 10,382,909

22. On August 13, 2019, the PTO issued United States Patent No. 10,382,909, entitled “Method for Transmitting Messages in a Telecommunications Network.” A true and

correct copy of the '909 Patent is attached hereto as Exhibit B and incorporated herein by this reference.

23. The '909 Patent is a Division of application No. 11/975,428, which is a continuation of the '822 Patent. *See* '909 Patent, cover page. The '909 Patent and the '822 Patent share the same figures and written description. During examination of the '909 Patent, the Examiner reviewed the art cited during prosecution of the '822 Patent, the art cited in the *Inter Partes* Reexamination of the '822 Patent, Control No. 95/001,211, and the PTAB's Decision on Appeal in the reexamination of the '822 Patent. The Examiner subsequently determined the claims of the '909 Patent to be patentable.

24. IPCOM is the assignee and owner of all right, title, and interest in and to the '909 Patent, including the right to assert all causes of action arising under said patent and the right to any and all remedies for infringement, including past damages.

25. The '909 Patent describes, *inter alia*, methods and apparatus for use in transmitting messages in a mobile telecommunications network that provides SMS and MMS services using MMSCs, SMSCs, wireless base stations, and mobile phones. *See* '909 Patent, 3:3-34, 7:39-52, 8:12-9:26. The invention of the '909 Patent solves technical problems involving the transmission of messages. *Id.* In order to transmit the messages, the telecommunications equipment needs to set up a "connection" (or "session"), but setting up these connections requires certain "overhead" defined by use of network resources, including "bandwidth" resources. *Id.*, 4:11-63. The invention of the '909 Patent reduces the amount of overhead needed to send messages. *Id.* This improves the efficiency and capacity of the network.

26. The '909 Patent claims are directed to patent-eligible, non-abstract ideas because they provide technical solutions to the technical problems described above. The claims relate to

sending a dedicated MMS message using a short message of the SMS service. *Id.*, 4:11-5:13. In one embodiment, the short message carries a dedicated MMS notification message, which may indicate the presence of another type of MMS message on an MMS server in the telecommunications network. *See id.*; *see also id.*, 6:30-7:29. By using the short message to send the dedicated MMS notification message, the telecommunications network is able to dispense with the “overhead” associated with “setting up a connection/session.” *Id.*, 4:11-63. The ’909 Patent further explains that by employing the claimed methods, no “additional signaling for transmitting notifications” is required, and therefore the network bandwidth and signaling resources are conserved. *Id.* Thus, the claimed inventions are also directed to patent-eligible, non-abstract ideas because they improve the overall functioning of a telecommunications system. Further, the methods claimed in the ’909 Patent cannot be performed as mental steps by a human, nor do they represent the application of a generic computer to any well-known method of organizing human behavior.

U.S. Patent No. 6,813,261

27. On November 2, 2004, the PTO issued United States Patent Number 6,813,261, entitled “Method of Mobile Communication and Apparatus Therefor.” IPCom is the assignee and owner of all right, title, and interest in and to the ’261 Patent, including the right to assert all causes of action arising under said patent and the right to any and all remedies for infringement, including past damages. A true and correct copy of the ’261 Patent is attached hereto as Exhibit C and incorporated herein by this reference.

28. In general, the ’261 Patent describes methods and apparatuses for initiating and establishing “efficient communication of data between a base station and a plurality of mobile terminals” in a cellular network. *See, e.g.*, ’261 Patent at Abstract. The invention includes, for

example, a base station that “receiv[es] an alert signal from a mobile terminal,” “evaluat[es] the alert signal for the presence of a particular code by comparing the alert signal with a plurality of codes,” and “if the particular code is present, transmit[s] an alert response to the mobile terminal, the alert response containing data corresponding to the particular code.” *Id.* at 19:9-20:3.

29. The ’261 Patent claims relate to technical solutions to technical problems that arise in the design and implementation of traditional cellular networks. More particularly, the patent identifies several technical drawbacks of prior art systems, including, for example:

- “In the above-mentioned conventional mobile communication system...a plurality of reservation packets collide in the base station when the reservation packets are transmitted from a plurality of mobile terminals to the base station, and the contents of the reservation packets cannot be correctly read out in the base station. Therefore, the mobile terminals must transmit reservation packets again. In order to transmit the reservation package again as described above, waiting times are set in random fashion so that the reservation packages will not collide again. When the reservation packets collide, the transmission efficiency of data greatly decreases.” *Id.*, 1:58-2:2.
- “Furthermore, in the above-mentioned conventional mobile communications system...data for making a reservation are transmitted and received in addition to the data that are to be transmitted. Therefore, a ratio for the data that are desired to be transmitted decreases in the whole data that are transmitted and received between the base station and the mobile terminals. When the consecutive data are to be transmitted being divided into a plurality of data packages..., in particular, a reservation packet is transmitted for the transmission of each data packet, and the packets occupy a large ratio in the whole data transmitted and received between the base station and the mobile terminal.” *Id.*, 2:3-16. As a result, “the ratio for the data that are desired to be transmitted becomes low with respect to the entire amount of data” and “the communication capacity of data decreases by an amount corresponding to the electric power of transmitting the reservation packets.” *Id.*, 2:48-50, 2:62-67.

30. The ’261 Patent claims are directed to a patent-eligible, non-abstract idea as they relate to technical solutions to overcome at least the above described problems. For example, the patent identifies numerous advantages that the claimed techniques provide compared to traditional cellular networks. *See, e.g.*, ’261 Patent, 3:1-7:15 (describing “representative

examples of methods and apparatuses” which provide technology capable of (1) “efficiently transmitting and receiving data between the base station and a plurality of mobile terminals”; (2) “detecting the individual alert signals even when a plurality of alert signals are transmitted from a plurality of mobile terminals to the base station”; and (3) “maintaining, at a low level, the value of the alert signals transmitted from the mobile terminals”). The claimed techniques enhance the process for initiating and establishing data transfer between multiple mobile terminals and a base station, and therefore, improve the function of a computer and computer communication systems within cellular networks. The methods claimed in the ’261 Patent cannot be performed as mental steps by a human, nor do they represent the application of a generic computer to any well-known method of organizing human behavior.

31. The ’261 Patent claims inventive concepts that are significantly more than any patent-ineligible, abstract idea. In particular, the claimed technology, including individual limitations as well as ordered combinations of limitations, were not well-understood, routine, or conventional, and cover multiple advantages, and combinations of advantages, that were not well-understood, routine, or conventional. *See, e.g., id.* at 1:30-7:10.

U.S. Patent No. 7,006,463

32. On February 28, 2006, the PTO issued United States Patent Number 7,006,463, entitled, “CDMA Communication System and Its Transmission Power Control Method.” IPCom is the assignee and owner of all right, title, and interest in and to the ’463 Patent, including the right to assert any and all causes of action arising under said patent and the right to any remedies for infringement, including past damages. A true and correct copy of the ’463 Patent is attached hereto as Exhibit D and incorporated herein by this reference.

33. In general, the '463 Patent pertains to methods and apparatuses for providing “uplink channel transmission power control” in a CDMA telecommunications network. *See, e.g.,* '463 Patent at Abstract. Since “mobile terminals share the same frequency band to communicate with a single base station” uplink power control is important to limit unwanted interference in the communication channel. *Id.* at 1:19-31. The invention of the '463 Patent provides for improved uplink power control involving, for example, transmitting power control signals to multiple “mobile terminals by using [a] common channel shared by the mobile terminals.” *See, e.g.,* '463 Patent at Abstract.

34. The invention of the '463 Patent provides technical solutions to technical problems in conventional power control methods. Traditional transmission power control methods (*e.g.,* for voice-only) operate under the assumption that there exists a pair of uplink and downlink traffic channels. *Id.* at 2:40-47. As the patent explains: “[i]f a paired downlink channel is provided only for the transmission power control of the uplink traffic channel, one downlink traffic channel is occupied by the transmission power control of only the uplink traffic channel. The use efficiency of traffic channels is lowered.” *Id.* at 2:48-52.

35. The '463 Patent claims are directed to a patent-eligible, non-abstract idea. To solve the above described technical problem in the prior art, the patent describes “a single downlink traffic channel common for all mobile stations,” which allows a base station to control the transmission power of a plurality of mobile stations without consuming capacity on individual downlink traffic channels, thereby increasing network efficiency. *Id.* at 2:53-57; *see also id.* at 10:10-25, 10:59-11:10. The '463 Patent’s claimed techniques improve the performance and function of communication systems and cannot be performed as mental steps

by a human, nor do they represent the application of a generic computer to any well-known method of organizing human behavior.

36. The '463 Patent claims inventive concepts that are significantly more than any patent-ineligible, abstract idea. In particular, the claimed technology, including individual limitations as well as ordered combinations of limitations, were not well-understood, routine, or conventional, and cover multiple advantages, and combinations of advantages, that were not well-understood, routine, or conventional. *See, e.g., id.* at 2:40-57.

U.S. Patent No. 6,983,147

37. On January 3, 2006, the PTO issued United States Patent Number 6,983,147, entitled “Method of transmitting signaling information, a master station, a mobile station and message elements.” IPCOM is the assignee and owner of all right, title, and interest in and to the '147 Patent, including the right to assert all causes of action arising under said patent and the right to any and all remedies for infringement, including past damages. A true and correct copy of the '147 Patent is attached hereto as Exhibit E and incorporated herein by this reference

38. In general, the '147 Patent describes methods and apparatuses for “transmitting signaling information between a master station and a slave station.” *See* '147 Patent at Abstract. For example, “a message, which contains information regarding whether data to be sent is processed in the master station to increase the reception quality of this data at the slave station, is transmitted with the signaling information from the master station to the slave station” in a cellular network. *See id.* The invention may include, for example, a “transmitting station” that “transmit[s] information” “regarding whether data to be sent is processed by an additional transmitting station,” which is “successively assigned to the receiving station to increase a reception quality at the receiving station in accordance with measures relating to a transmission

channel between the receiving station and as least one of the transmitting station and the additional transmitting station.” *Id.*, 22:65-23:6.

39. The ’147 Patent claims technical solutions to technical problems in the design and implementation of cellular networks, such as when initiating data transfers between multiple transmitters and a single mobile receiver. The ’147 Patent specification identifies technical drawbacks of traditional cellular networks, including at least, for example “that it is not known in the mobile station whether or not the base station is transmitting the data predistorted over the at least one specially allocated transmission channel. Therefore, the mobile station cannot decide whether or not it must eliminate distortion from the data received by the base station over the specially set-up transmission channel.” *Id.*, 1:31-37.

40. The ’147 Patent claims are directed to a patent-eligible, non-abstract idea. They cover technical solutions to improve computer and electronic communications between cellular transmitters and receivers. For example, the patent identifies numerous specific advantages that the claimed techniques provide compared to traditional cellular networks. *See, e.g., id.* at 1:41-64 (describing “example method[s] according to the present invention” which provide technology capable of at least (1) “[S]etting up a transmission channel from the master station to the slave station, the slave station is able to decide how it may detect the data to be sent by the master station or the data to be sent by the other master station downstream from and assigned to the slave station in order to be able to guarantee optimum data reception”; (2) “If the slave station determines that the data to be sent by the corresponding master station has already been processed in the corresponding master station, then it may omit a complicated distortion elimination because the data will arrive at the slave station with a suitably increased reception quality”; and (3) “Power consumption at the slave station may be minimized in this manner,

which may be advantageous when configuring the slave station as a mobile station with battery operation”). Further, the claimed technologies cannot be performed as mental steps by a human, nor do they represent the application of a generic computer to any well-known method of organizing human behavior.

41. The ’147 Patent claims inventive concepts that are significantly more than any patent-ineligible, abstract idea. In particular, the claimed technology, including individual limitations as well as ordered combinations of limitations, were not well-understood, routine, or conventional, and cover multiple advantages, and combinations of advantages, that were not well-understood, routine, or conventional. *See, e.g., id.* at 22:62-23:16.

FACTUAL BACKGROUND

IPCom

42. IPCom is an intellectual property licensing and research & development company. Since its founding in 2007, IPCom has been committed to innovation in the wireless communications market. IPCom creates inventions and files patent applications for those inventions, collaborates with others to develop and patent inventions, and acquires and licenses patents from individual inventors and other institutions.

43. IPCom’s current patent portfolio encompasses over 200 patent families in the field of mobile communications, with more than 1,000 patents registered in Europe, the US and Asia.

44. Research and development are core to IPCom’s philosophy and approach. IPCom’s research and development (“R&D”) team is made up of pioneering scientists and engineers and is continuously looking for ways to develop and enhance mobile technologies. In

the past, IPCom's R&D has contributed to the evolution of UMTS to LTE and further to LTE-A. Currently, IPCom plays an active role in evolving 5G cellular technology.

45. IPCom also offers IP consulting services ("Consulting Services") to assist companies in the development of ideas and new innovations. IPCom's Consulting Services helps inventors transform ideas into successful inventions with real world applications and a tangible market value. IPCom works closely with inventors to safeguard their ideas and maximize the value of their innovation.

46. IPCom is dedicated to maintaining industry standards and continues to collaborate with industry standards setting organizations and third parties to make key contributions to industry bodies including 3GPP, OMA, ETSI, OMTP, Bluetooth SIG, and TCG.

The Verizon Network

47. Verizon is in the business of providing wireless telephony and data services to customers throughout the United States, including in the State of Texas. These wireless services are provided by a wireless network comprising, in part, a network of base transceiver stations for communication with mobile wireless devices (*e.g.*, customer handsets) over radio frequencies in compliance with certain industry standards.

48. Since no later than 2006, Verizon has deployed, owned, maintained, operated, and used 3G mobile telecommunication networks in conformance with certain 3rd Generation Partnership Project 2 ("3GPP2") standards including at least CDMA2000 1xRTT and CDMA2000 1xEV-DO (Evolution-Data Optimized), hereinafter the "Verizon CDMA Network." Much of the equipment installed in the accused Verizon CDMA Network, including base transceiver stations, was acquired, and installed and configured with assistance from Verizon's

longtime business partners, Ericsson and Nokia, who designed, manufactured, and sold such 3G telecommunications equipment.

49. Since no later than 2010, Verizon has deployed, owned, maintained, operated, and used an LTE network that has operated in conformance with various Third Generation Partnership Project (“3GPP”) LTE standards, hereinafter the “Verizon LTE Network.” Much of the equipment installed in the accused Verizon LTE Network, including base transceiver stations (a.k.a. eNodeBs) was acquired, and installed and configured with assistance from Verizon’s longtime business partners Ericsson and Nokia/Alcatel, who designed, manufactured, and sold such 4G telecommunications equipment.

50. Since no later than 2018, Verizon has deployed, owned, maintained, operated, and used a 5G network that has operated in conformance with certain 3GPP standards, hereinafter the “Verizon 5G Network.” Upon information and belief, much of the equipment installed in the accused Verizon 5G Network, including base transceiver stations was acquired, and installed and configured with assistance from Verizon’s longtime business partners Ericsson and Nokia/Alcatel, who designed, manufactured, and sold such 5G telecommunications equipment.

51. Verizon also provides SMS and MMS services in the Verizon Network. To support these services, Verizon owns and operates Multimedia Messaging Service Centers (MMSCs) that conform to standards developed by the 3GPP, 3GPP2 and the Open Mobile Alliance (“OMA”). Mavenir supplies MMSCs and/or other telecommunications equipment and services to Verizon in order to support the processing and transmission of SMS and MMS messages in the Verizon network.

52. The Verizon Network was accessible by an average of between 90 and 120 million customers from 2012-2019, and currently services 119.9 million customers during Q2

2020. The Verizon Defendants had a net operating revenue for fiscal year 2019 of nearly \$131.9 billion. The Verizon CDMA Network, Verizon LTE Network, and Verizon 5G Network continue to operate as of the filing of this Complaint.

Verizon's Third-Party Vendors and Partners

53. As discussed above, much of the equipment in Verizon's CDMA, LTE and 5G Networks was acquired from Verizon's longtime business partners, Ericsson and Nokia/Alcatel, which have supplied CDMA, LTE, and 5G telecommunications equipment to Verizon, including 3G, LTE, and 5G base stations. This includes 3G and LTE base stations from Alcatel, which merged with Nokia in 2016.

54. In addition, Verizon contracts with Mavenir for MMSCs and/or other telecommunications equipment and messaging services to provide message processing functions for its SMS and MMS services. Mavenir has a complex corporate history, and it comprises portions of Comverse, Inc. and Acision, the combination of which was known as Xura between 2015 and 2017. Verizon uses MMSCs and/or other telecommunications equipment and services branded under all of these company names, which are now controlled by Mavenir.

Ericsson

55. Upon information and belief, Verizon and Ericsson also worked together in developing and deploying Verizon's Network. Verizon and Ericsson's partnership extends beyond a mere customer-supplier relationship. The companies employ a strategic partnership in developing 4G and 5G technologies, including the Verizon Wireless' LTE Innovation Center, for which Ericsson is a founding partner.

56. Ericsson maintains a significant physical presence in Texas and this judicial district. Ericsson's headquarters are located at 6300 Legacy Drive, Plano, Texas 75024, which is

within this judicial district. Ericsson employs approximately 4500 employees in its Plano headquarters, including hardware and software engineers that have been involved in the development of 3G and LTE base stations, wherein such base stations perform the methods of many of the asserted claims. Ericsson also maintains a 300,000 square-foot factory in Lewisville, Texas, also within this District, which is directed to the development and production of network base stations. Indeed, Verizon has been purchasing base stations made at this factory.¹

57. Ericsson also operates a design center in Austin, Texas, that focuses on the design and development of Application Specific Integrated Circuits (“ASICs”) that “are at the core of all Ericsson Radio Systems and can be seen as processors that are specifically made for the computation needs of mobile infrastructure.”²

58. Upon information and belief, Ericsson’s Plano headquarters and its Lewisville and Austin facilities possess highly relevant information about the design, development, standards-compliance, and operation of the accused networks and services, and employ individuals having specialized knowledge about the same.

Nokia/Alcatel

59. Nokia also has a significant presence in Texas and this judicial district. Nokia runs both a data center and training center in Plano, Texas and a manufacturing facility in

¹ <https://www.fiercewireless.com/operators/verizon-takes-delivery-ericsson-s-u-s-made-5g-base-station>

² <https://www.ericsson.com/en/press-releases/2017/10/ericsson-opens-5g-design-site-in-austin-texas>.

Lewisville, Texas, where, upon information and belief, Nokia possesses relevant information concerning the accused networks and services.

60. In 2015, Alcatel invested \$55 million in a regional headquarters in Plano, Texas. After acquiring a controlling interest in Alcatel, Nokia rebranded this Plano office as a Nokia location and has since operated it as a training center. This facility services “customers, partners and employees worldwide” and “deliver[s] a top-quality learning experience, tailored to [Nokia’s] customers’ specific requirements and preferences.”³ Upon information and belief, Nokia’s Plano center educates customers on the function and operation of the accused networks and services and employs persons with this relevant knowledge.

61. Nokia maintains additional offices throughout the State of Texas. Most notably, Nokia maintains its U.S. headquarters in Dallas, Texas, where it employs thousands of employees, including hardware and software engineers who have been involved in the development of the Verizon’s 3G, LTE, and 5G network base stations and have knowledge about the design, operation, standards-compliance, and maintenance of such equipment. Nokia also runs an innovation center in Dallas, Texas where it employs “research scientists and engineers” that, per Nokia, have “invented many of [Nokia’s] fundamental technologies that provide the foundation for information and communications networks and all digital devices and systems.”⁴ These “fundamental technologies” encompass the accused networks and services. Further, Nokia operates a training center in Irving, Texas that it describes as offering the same relevant educational services as its Plano, Texas location.

³ <https://learningstore.nokia.com/locations/files/US-Plano.pdf>.

⁴ <https://www.nokia.com/about-us/sustainability/our-approach/innovation/>.

Mavenir

62. Mavenir maintains a significant physical presence in the State of Texas. Its headquarters are located at 1600 International Parkway, Suite 200, Richardson, Texas 75081. Mavenir employs over 1,000 employees at this location, including a wide range of hardware and software engineers that design and develop Mavenir's radio access network products and features. Upon information and belief, Mavenir's Richardson location employs individuals that have specialized knowledge about the design, development, operation, and configuration of MMSCs and/or other telecommunications equipment used to support the processing of SMS and MMS messages in the Verizon network. Thus, Mavenir's Richardson office possesses relevant documents, and employs witnesses concerning the same.

COUNT I

Infringement of the '822 Patent by Verizon

63. All preceding paragraphs are incorporated by reference as if fully restated herein.

64. Verizon has deployed, owned, maintained, operated, and used a nationwide wireless telecommunication network comprising the Verizon CDMA Network, Verizon LTE Network, and Verizon 5G Network. These networks are configured to, and have been used to, receive and transmit SMS and MMS messages with devices connected to the network, such as customer handsets. These networks include MMSCs or similar equipment for processing message traffic and base station transceivers for sending messages to devices connected to the network.

65. Verizon's networks comply with, or implement in pertinent respects, technical standards promulgated by 3GPP, 3GPP2 and the Open Mobile Alliance (OMA) that describe the operation of messaging services. These include, for example:

- 3GPP TS 23.140 version 6.16.0 Release 6 (2009-04) (“TS 23.140”);
- 3GPP TS 26.140 version 10.0.0 Release 10 (2011-04) (“TS 26.140”);
- 3GPP2 X.S0016-000-B version 1.0 Revision B (June 2004) (“3GPP2 X.S0016-000-B”);
- 3GPP2 X.S0016-310-0 version 2.0 (June 2004) (“3GPP2 X.S0016-310-0”);
- Multimedia Messaging Service, Architecture Overview, Approved Version 1.1 – 15 Jul 2004, Open Mobile Alliance, OMA-WAP-MMS-ARCH-V1_1-20040715-A (“OMA MMS Architecture”);
- Multimedia Messaging Service Client Transactions, Approved Version 1.2 – 01 Mar 2005, Open Mobile Alliance, OMA-MMS-CTR-V1_2-20050301-A (“OMA MMS Client Transactions”); and
- Multimedia Messaging Service Encapsulation Protocol, Approved Version 1.2 – 01 Mar 2005, Open Mobile Alliance, OMA-MMS-ENC-V1_2-20050301-A (“OMA MMS Encapsulation”).

66. Verizon has directly infringed and continues to infringe at least claims 1, 32 and 33 of the ’822 patent under 35 U.S.C. § 271(a) by transmitting messages in its telecommunications networks by using MMSCs and/or other telecommunications equipment that comply with, or implement in pertinent respects, the relevant industry 3GPP, 3GPP2 and OMA messaging standards. By way of non-limiting example, Verizon has directly infringed these claims by transmitting dedicated MMS messages using wireless access protocol (“WAP”) Push messages that include header and data portions that satisfy the claims. *See, e.g.*, TS 23.140, §§ 1, 4 and 5.2; OMA MMS Architecture, § 6; OMA MMS Client Transactions, § 8; OMA MMS Encapsulation, § 8; and 3GPP2 X.S0016-310-0, § 3.2. In the foregoing example, the dedicated MMS messages include, for instance, MMS notification messages. *Id.*

67. On or about November 15, 2019, Verizon received a letter from IPCom identifying the ’822 patent, indicating the need for a license, and inviting licensing negotiations. Verizon did not take, and does not have, a license to the ’822 Patent and thus its use of the invention is unauthorized. Verizon has taken no action to avoid or mitigate its infringement

despite an objectively high likelihood that its actions constitute infringement. This Complaint provides yet additional notice of Verizon's continuing infringement of the '822 Patent. For at least these reasons, Verizon's infringement has been and continues to be willful.

68. As a direct and proximate consequence of Verizon's infringement of the '822 Patent, IPCom has suffered damages in an amount not yet determined for which IPCom is entitled to relief.

COUNT II

Infringement of the '909 Patent by Verizon

69. All preceding paragraphs are incorporated by reference as if fully restated herein.

70. Verizon has directly infringed at least claims 1, 3 and 6-10 of the '909 patent under 35 U.S.C. § 271(a) by transmitting messages in its telecommunications networks using MMSCs and/or other telecommunications equipment that comply with, or implement in pertinent respects, the relevant industry 3GPP, 3GPP2 and OMA messaging standards. By way of non-limiting example, Verizon has directly infringed these claims by transmitting dedicated MMS messages using WAP Push messages. *See, e.g.*, TS 23.140, §§ 1, 4 and 5.2; OMA MMS Architecture Overview, § 6; OMA MMS Client Transactions, § 8; OMA MMS Encapsulation Protocol, § 8; and 3GPP2 X.S0016-310-0, § 3.2. In the foregoing example, the dedicated MMS messages include, for instance, MMS notification messages. *Id.*

71. On or about November 15, 2019, Verizon received a letter from IPCom identifying the '909 Patent, indicating the need for a license, and inviting licensing negotiations. Verizon did not take, and does not have, a license to the '909 Patent and thus its use of the invention is unauthorized. Verizon has taken no action to avoid or mitigate its infringement despite an objectively high likelihood that its actions constitute infringement. This Complaint

provides yet additional notice of Verizon's continuing infringement of the '909 Patent. For at least these reasons, Verizon's infringement has been and continues to be willful.

72. As a direct and proximate consequence of Verizon's infringement of the '909 Patent, IPCom has suffered damages in an amount not yet determined for which IPCom is entitled to relief.

COUNT III

Infringement of the '463 Patent by Verizon

73. All preceding paragraphs are incorporated by reference as if fully restated herein.

74. Verizon has deployed, owned, maintained, operated, and used mobile telecommunication networks in conformance with 3GPP2 telecommunications standards.

75. Verizon's CDMA Network includes base stations that control uplink power by generating and transmitting power control bits to multiple mobile terminals by using a common CDMA power control channel that is shared by multiple mobile terminals in accordance with 3GPP2 standards, including at least 3GPP2 C.S0002 and 3GPP2 C.S0024. *See, e.g.*, 3GPP2 C.S0002, Releases A-E (all versions), § 1; 3GPP2 C.S0024, Release A (all versions), §§ 1.5, 1.11, 12, and 13. In accordance with 3GPP2, Verizon's base stations spread and modulate all bits, including power control bits, prior to transmission over the base station's antenna. *See, e.g.*, 3GPP2 C. S0002, Release A (all versions), §§ 3.1.3.1.1 and 3.1.3.1.2. Moreover, Verizon's CDMA Network includes multiple traffic channels for communication between a base station and each mobile terminal. *See, e.g.*, 3GPP2 C.S0024, Release A (all versions), § 1.11.

76. Verizon has directly infringed at least claims 6, 8, 9, 13, 15, and 16 of the '463 Patent under 35 U.S.C. § 271(a) by operating and using base stations in the Verizon CDMA Network to control uplink power in accordance with the pertinent 3GPP2 standards.

77. As a direct and proximate consequence of Verizon's infringement of the '463 Patent, IPCom has suffered damages in an amount not yet determined for which IPCom is entitled to relief.

COUNT IV

Infringement of the '261 Patent by Verizon

78. All preceding paragraphs are incorporated by reference as if fully restated herein.

79. Verizon has deployed, owned, maintained, operated, and used mobile telecommunication networks in conformance with 3GPP standards.

80. Verizon's LTE Network performs a random access procedure to initiate and establish data transfer between an eNodeB and multiple mobile terminals, in accordance with 3GPP standards, including at least:

- 3GPP TS 36.211, version 11.5.0, Release 11 (2014-01) and later versions ("TS 36.211");
- 3GPP TS 36.213, version 11.5.0, Release 11 (2014-02) and later versions("TS 36.213"); and
- 3GPP TS 36.300, version 11.5.0, Release 11 (2014-02) and later versions ("TS 36.300").

81. Verizon's eNodeBs receive requests (i.e. random access preamble) from mobile terminals that desire to establish connections, detect a code in the received requests (*see, e.g.*, TS 36.211 at 5.7.2; TS 36.213 at 6.1), and respond with a message (i.e. random access response) containing data corresponding to the code (*see, e.g.*, TS 36.300 at 10.1.5.1, 10.1.5.2), thereby establishing connections with the mobile terminals and allowing data transfer.

82. Verizon has directly infringed at least claims 34-36 of the '261 Patent under 35 U.S.C. § 271(a) at least by using, installing, testing, and/or maintaining eNodeB devices in

Verizon's LTE Network to perform random access procedures in accordance with 3GPP standards, such as described in the example above.

83. As a direct and proximate consequence of Verizon's infringement of the '261 Patent, ICom has suffered damages in an amount not yet determined for which ICom is entitled to relief.

COUNT V

Infringement of the '147 Patent by Verizon

84. All preceding paragraphs are incorporated by reference as if fully restated herein.

85. The Verizon LTE Network includes base stations known as eNodeBs for wirelessly communicating with user equipment ("UE", *e.g.*, smart phones). The 4G LTE technical standards promulgated by 3GPP provide for a signaling protocol called Dual Connectivity. Dual Connectivity enables a wireless network to provide additional radio resources to improve reception by user equipment. This feature connects a UE to a first eNodeB serving as a Master eNodeB (MeNB) and then also connecting the UE to a second eNodeB serving as a Secondary eNodeB (SeNB).

86. Dual connectivity is described in several 3GPP technical standards, including at least:

- 3GPP TS 36.300 V. 12.4.0;
- 3GPP TS 36.331 V. 12.4.0; and
- 3GPP TS 36.213 V. 12.4.0.

The Defendants have deployed network equipment that complies with, or implements in pertinent part, the dual connectivity feature described in the applicable 3GPP technical standards.

87. The Defendants have directly infringed at least claims 32-36 of the '147 patent under 35 U.S.C. § 271(a) by using, installing, testing, and/or maintaining eNodeBs and other equipment in Verizon's networks resulting in actual use of the Dual Connectivity feature. By way of examples, infringement has occurred and continues to occur when an LTE base station is used in conjunction with an LTE small-cell to both communicate with a UE. By way of further example, infringements occur when an LTE station and a 5G station both communicate with a UE. By way of yet a further example, infringements occur when an LTE base station and a second LTE base station both communicate with a UE.

88. The 4G LTE technical standards promulgated by 3GPP also provide for "handover," a procedure that changes the serving cell of a UE in an RRC_CONNECTED state. Handover enables a wireless network to transfer a UE's connection from one eNodeB to another eNodeB, thus improving reception by the UE. This occurs, for example, when a UE is moving further away from a first eNodeB to which it is connected, and closer to a second eNodeB.

89. Handover is described in several 3GPP technical standards, including at least:

- 3GPP TS 36.300 V8.9.0;
- 3GPP TS 36.331 V8.7.0; and
- 3GPP TS 36.213 V8.8.0.

The Defendants have deployed network equipment that complies with, or implements in pertinent part, the handover feature described in the applicable 3GPP technical standards.

90. The Defendants have directly infringed at least claims 1-4 and 6 of the '147 patent under 35 U.S.C. § 271(a) by using, installing, testing, and/or maintaining eNodeBs and other equipment in Verizon's networks resulting in actual use of the handover feature. By way of

example, infringement has occurred and continues to occur when eNodeBs in Verizon's network use the handover feature to transfer UE's between serving cells.

91. On or about November 15, 2019, Verizon received a letter from ICom identifying the '147 Patent, indicating the need for a license, and inviting licensing negotiations. Verizon did not take, and does not have, a license to the '147 Patent and thus its use of the invention is unauthorized. Verizon has taken no action to avoid or mitigate its infringement despite an objectively high likelihood that its actions constitute infringement. This Complaint provides yet additional notice of Verizon's continuing infringement of the '147 Patent. For at least these reasons, Verizon's infringement has been and continues to be willful.

92. As a direct and proximate consequence of Verizon's infringement of the '147 Patent, ICom has suffered damages in an amount not yet determined for which ICom is entitled to relief.

DEMAND FOR JURY TRIAL

93. ICom hereby demands a trial by jury on all claims and issues so triable.

PRAYER FOR RELIEF

WHEREFORE, ICom respectfully requests judgment for themselves and against Defendants as follows:

- a. that this Court adjudge that the Defendants have infringed each of the Patents-in-Suit;
- b. that this Court ascertain and award ICom damages under 35 U.S.C. § 284 sufficient to compensate for Defendants' infringement, including but not limited to infringement occurring before the filing of this lawsuit;

- c. that this Court adjudge that the Defendants have willfully infringed one or more of the Patents-in-Suit and award IPCom treble damages;
- d. that this Court ascertain and award IPCom any post-judgment ongoing royalties under 35 U.S.C. § 284 as may be appropriate;
- e. that this Court award any applicable pre-judgment and post-judgment interest;
- f. that this Court find this case to be exceptional and award IPCom its attorneys' fees pursuant to 35 U.S.C. § 285; and
- g. that this Court award IPCom such other relief at law or in equity as the Court deems just and proper.

DATED: October 1, 2020

Respectfully submitted,

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